DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 29, 2008 has been entered.

Response to Amendment

This Office action is in response to Applicant's communication filed September 29, 2008 in response to the Office action dated June 27, 2008. Claims 1, 9, 19, 20, 23, 31, and 39-42 have been amended. Claims 1-15, 19, 20, and 23-42 are pending in this application.

OBJECTIONS

Claims

1. In view of Applicant's amendment, the objection to **claim 41** is withdrawn.

2. **Claim 20** is objected to because in the last line of the claim the space between the last word and the period should be deleted.

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 6-10, 13-15, 19, 20, 23, 25, 28-31, 33, and 36-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Federwisch et al (U.S. Patent Application Publication 2003/0182313) (hereinafter "Federwisch") in view of Edwards (U.S. Patent Application Publication 2003/0182389).

The applied references have a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, they constitute prior art under 35 U.S.C. 102(e). However, the references were published before the earliest priority date of the instant application, thus, they also constitutes prior art under 35 U.S.C. 102(a).

5. **As per claims 1 and 20**, Federwisch discloses a method for operating a data storage system, comprising:

creating a writable virtual disk (vdisk) at a selected time, the writable vdisk referencing changes in data stored in the data storage system after the writable vdisk was created (paragraph 0064; paragraph 00128); *It should be noted that the computer readable medium of claim 20 executes the exact same functions as the method of claim*

1. Therefore, any reference(s) that teach claim 1 also teach corresponding claim 20. It should also be noted that the "source snapshot" is analogous to the "writable vdisk."

maintaining a backing store, the backing store referencing the data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128); *It should be noted that the "destination snapshot" is analogous to the "backing store."*

loading blocks of the writable vdisk from a disk into a memory, the loaded blocks including a writable vdisk indirect block having a plurality of fields, each field storing a valid pointer to a data block or an invalid pointer representing a particular hole of the plurality of holes, where each hole instructs the data storage system to examine a corresponding virtual block number pointer in the backing store (paragraphs 0067-0068; paragraphs 0131-0132; Fig. 17);

loading blocks of the backing store from a disk into memory, the loaded blocks including a backing store indirect block having a plurality of fields, each backing store indirect field corresponding to a field of the writable vdisk indirect block, one or more backing store indirect block fields having a pointer to a data block (paragraphs 0067-0068; paragraphs 0131-0132; Fig. 17);

and replacing each field having a hole in the writable vdisk indirect block with a new pointer to the data block referenced by the corresponding backing store indirect block field to update the writable vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740).

Federwisch does not disclose searching each field of the writable vdisk indirect block for a hole.

Edwards discloses searching each field of the writable vdisk indirect block for a hole (paragraph 0048; Fig. 8, element 805).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

6. **As per claim 3**, the combination of Federwisch/Edwards discloses choosing a new pointer for a newly allocated data block containing the unaltered data content (Federwisch, paragraph 0131; Fig. 17);

setting bits in block allocation structures for the newly allocated data block (Federwisch, paragraph 0131; Fig. 17); *It should be noted that the "inode maps" are analogous to the "block allocation structures."*

placing the new pointer to the newly allocated data block into the field of the writable vdisk indirect block to replace the hole (Federwisch, paragraph 0131; Fig. 17).

7. **As per claim 6**, the combination of Federwisch/Edwards discloses the pointers contained in the writable vdisk indirect block fields and the backing store indirect block fields comprise logical block numbers (VBNs) (Federwisch, paragraph 0067).

8. **As per claim 7**, the combination of Federwisch/Edwards discloses the invalid pointers contained in the writable vdisk indirect block fields comprise a zero logical volume block number (VBN) (Federwisch, paragraph 0131).

9. **As per claim 8**, the combination of Federwisch/Edwards discloses the plurality of fields in the writable vdisk indirect block are a writable vdisk level 1 buffer and the plurality of fields in the backing store indirect block are a backing store level 1 buffer (Federwisch, paragraphs 0067-0068). *It should be noted that the "inodes" function as "level 1 buffers."*

10. **As per claim 9**, Federwisch discloses an apparatus for operating a computer data base, comprising:

a writable virtual disk (vdisk) created at a selected time, the writable vdisk referencing changes in data stored in a data storage system after the writable vdisk was created (paragraph 0064; paragraph 00128);

a backing store, the backing store referencing data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128);

a backdoor message handler adapted to load blocks of the writable vdisk and backing store from disk into a memory of the storage system (paragraphs 0067-0068);

a writable vdisk indirect block in the memory having a plurality of fields, each field storing a valid pointer to a data block or an invalid pointer representing a particular hole of a plurality of holes, where each hole instructs the data storage system to examine a corresponding virtual block number pointer in the backing store (paragraphs 0067-0068; paragraphs 0131-0132; Fig. 17);

a backing store indirect block in the memory having a plurality of fields, each backing store indirect block field corresponding to a field of the writable vdisk indirect block, each backing store indirect block field having a pointer to a data block (paragraphs 0067-0068; paragraphs 0131-0132; Fig. 17);

and a write allocator for replacing each field representing a hole in the writable vdisk indirect block with a new pointer to the data referenced by the corresponding backing store indirect block field to update the writable vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740). *See the citation notes for the similar limitations in claims 1 and 20 above.*

Federwisch does not disclose a special loading function for searching each field of the writable vdisk indirect block for one or more fields representing a hole.

Edwards discloses a special loading function for searching each field of the writable vdisk indirect block for one or more fields representing a hole (paragraph 0048; Fig. 8, element 805).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

11. **As per claim 10**, the combination of Federwisch/Edwards discloses a new pointer for a newly allocated data block containing an unaltered data content, set bits in block allocation structures for the newly allocated data block, and place the new pointer to the newly allocated data block into the field of the writable vdisk indirect block to replace the hole (Federwisch, paragraph 0131; Fig. 17). *See the citation note for claim 3 above.*

12. **As per claim 13**, the combination of Federwisch/Edwards discloses the pointers contained in the writable vdisk indirect block fields and the backing store indirect block fields comprise logical block numbers (VBNs) (Federwisch, paragraph 0067).

13. **As per claim 14**, the combination of Federwisch/Edwards discloses the invalid pointers contained in the writable vdisk indirect block fields comprise a zero logical volume block number (VBN) (Federwisch, paragraph 0131).

14. **As per claim 15**, the combination of Federwisch/Edwards discloses the plurality of fields in the writable vdisk indirect block are a writable vdisk level 1 buffer and the

plurality of fields in the backing store indirect block are a backing store level 1 buffer (Federwisch, paragraphs 0067-0068). *See the citation note for claim 8 above.*

15. **As per claim 19**, Federwisch discloses a data storage apparatus, comprising:

means for creating a writable virtual disk (vdisk) at a selected time, the writable vdisk referencing changes in data stored in the data storage system after the writable vdisk was created (paragraph 0064; paragraph 00128);

means for maintaining a backing store, the backing store referencing the data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128);

means for loading blocks of the writable vdisk from a disk into a memory, the loaded blocks including a writable vdisk indirect block having a plurality of fields, each field storing a valid pointer to a data block or an invalid pointer representing a particular hole of the plurality of holes, where each hole instructs the data storage system to examine a corresponding virtual block number pointer in the backing store (paragraphs 0067-0068; paragraphs 0131-0132; Fig. 17);

means for loading blocks of the backing store from a disk into memory, the loaded blocks including a backing store indirect block having a plurality of fields, each backing store indirect field corresponding to a field of the writable vdisk indirect block, one or more backing store indirect block fields having a pointer to a data block (paragraphs 0067-0068; paragraphs 0131-0132; Fig. 17);

and means for replacing each field having a hole in the writable vdisk indirect block with a new pointer to the data block referenced by the corresponding backing

store indirect block field to update the writable vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740). *See the citation notes for the similar limitations in claims 1 and 20 above.*

Federwisch does not disclose means for searching each field of the writable vdisk indirect block for a hole.

Edwards discloses means for searching each field of the writable vdisk indirect block for a hole (paragraph 0048; Fig. 8, element 805).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

16. **As per claims 23 and 39**, Federwisch discloses a method for operating a data storage system, comprising:

creating a writable virtual disk (vdisk) at a selected time, the writable vdisk referencing changes in data stored in the data storage system after the writable vdisk was created, the writable vdisk having a plurality of holes where each hole instructs the

storage system to examine a corresponding virtual block number pointer in a backing store (paragraph 0064; paragraph 00128; paragraphs 0131-0132; Fig. 17); *It should be noted that the computer readable medium of claim 39 executes the exact same functions as the method of claim 23. Therefore, any reference(s) that teach claim 23 also teach corresponding claim 39.*

maintaining the backing store, the backing store referencing the data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128);

and referencing each hole in the writable vdisk to point to the data block referenced by the corresponding backing store indirect block to update the writable vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740). *See the citation notes for the similar limitations in claims 1 and 20 above.*

Federwisch does not disclose searching each field of the writable vdisk indirect block for a hole.

Edwards discloses searching each field of the writable vdisk indirect block for a hole (paragraph 0048; Fig. 8, element 805).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all

the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

17. **As per claim 25**, the combination of Federwisch/Edwards discloses choosing a new pointer for a newly allocated data block containing the unaltered data content (Federwisch, paragraph 0131; Fig. 17);

setting bits in block allocation structures for the newly allocated data block (Federwisch, paragraph 0131; Fig. 17); *See the citation note for claim 3 above.*

placing the new pointer to the newly allocated data block into the field of the writable vdisk indirect block to replace the hole (Federwisch, paragraph 0131; Fig. 17).

18. **As per claim 28**, the combination of Federwisch/Edwards discloses including logical volume block numbers (VBNs) in the pointers contained in the writable vdisk indirect block fields and the backing store indirect block fields (Federwisch, paragraph 0067).

19. **As per claim 29**, the combination of Federwisch/Edwards discloses using a zero logical volume block number (VBN) as the invalid pointers contained in the writable vdisk indirect block fields (Federwisch, paragraph 0131).

20. **As per claim 30**, the combination of Federwisch/Edwards discloses using a writable vdisk level 1 buffer for the plurality of fields in the writable vdisk indirect block and using a backing store level 1 buffer for the plurality of fields in the backing store

indirect block (Federwisch, paragraphs 0067-0068). *See the citation note for claim 8 above.*

21. **As per claim 31**, Federwisch discloses a data storage system, comprising:

a writable virtual disk (vdisk) created at a selected time, the writable vdisk referencing changes in data stored in the data storage system after the writable vdisk was created, the writable vdisk having a plurality of holes, each hole instructing the storage system to examine a corresponding virtual block number pointer in a backing store (paragraph 0064; paragraph 00128; paragraphs 0131-0132; Fig. 17);

a backing store, the backing store referencing the data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128);

and a processor to reference each hole in the writable vdisk to point to the data block referenced by the corresponding backing store indirect block to update the writable vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740). *See the citation notes for the similar limitations in claims 1 and 20 above.*

Federwisch does not disclose a processor to search each field of the writable vdisk for a hole.

Edwards discloses a processor to search each field of the writable vdisk for a hole (paragraph 0048; Fig. 8, element 805).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

22. **As per claim 33**, the combination of Federwisch/Edwards discloses a new pointer chosen for a newly allocated data block containing an unaltered data content (Federwisch, paragraph 0131; Fig. 17);

bits are set in a block allocation structures for the newly allocated data block (Federwisch, paragraph 0131; Fig. 17); *See the citation note for claim 3 above.*

and a new pointer to the newly allocated data block placed into a field of the writable vdisk indirect block to replace the hole (Federwisch, paragraph 0131; Fig. 17).

23. **As per claim 36**, the combination of Federwisch/Edwards discloses logical volume block numbers (VBNs) included in the pointers contained in the writable vdisk indirect block fields and the backing store indirect block fields (Federwisch, paragraph 0067).

24. **As per claim 37**, the combination of Federwisch/Edwards discloses a zero logical volume block number (VBN) used as the invalid pointers contained in the writable vdisk indirect block fields (Federwisch, paragraph 0131).

25. **As per claim 38**, the combination of Federwisch/Edwards discloses a writable vdisk level 1 buffer used for the plurality of fields in the writable vdisk indirect block and a backing store level 1 buffer used for the plurality of fields in the backing store indirect block (Federwisch, paragraphs 0067-0068). *See the citation note for claim 8 above.*

26. **As per claims 40 and 42**, Federwisch discloses a method for operating a data storage system, comprising:

creating a writable virtual disk (vdisk) at a selected time, the writable vdisk referencing changes in data stored in the data storage system after the writable vdisk was created, the writable vdisk having a plurality of holes where each hole instructs the storage system to examine a corresponding virtual block number pointer in a backing store (paragraph 0064; paragraph 00128; paragraphs 0131-0132; Fig. 17); *It should be noted that the computer readable medium of claim 42 executes the exact same functions as the method of claim 40. Therefore, any reference(s) that teach claim 40 also teach corresponding claim 42.*

maintaining the backing store, the backing store referencing the data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128);

and referencing each hole in the writable vdisk to point to the data block referenced by the corresponding backing store indirect block to update the writable

vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740). *See the citation notes for the similar limitations in claims 1 and 20 above.*

Federwisch does not disclose searching, by a background task process, each field of the writable vdisk indirect block for a hole.

Edwards discloses searching, by a background task process, each field of the writable vdisk indirect block for a hole (paragraph 0048; Fig. 8, element 805; paragraph 0060).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

27. **As per claim 41**, Federwisch discloses a data storage system, comprising:

a writable virtual disk (vdisk) created at a selected time, the writable vdisk referencing changes in data stored in the data storage system after the writable vdisk was created, the writable vdisk having a plurality of holes, each hole instructing the

storage system to examine a corresponding virtual block number pointer in a backing store (paragraph 0064; paragraph 00128; paragraphs 0131-0132; Fig. 17);

a backing store, the backing store referencing the data stored in the data storage system which has not been changed since the writable vdisk was created (paragraph 0064; paragraph 00128);

and a processor to reference each hole in the writable vdisk to point to the data block referenced by the corresponding backing store indirect block to update the writable vdisk to reference both the data which is unchanged since the writable vdisk was created and the data which has been changed since the writable vdisk was created (paragraphs 0131-0132; Fig. 17, element 1740). *See the citation notes for the similar limitations in claims 1 and 20 above.*

Federwisch does not disclose a background task processor to search each field of the writable vdisk for a hole.

Edwards discloses a background task processor to search each field of the writable vdisk for a hole (paragraph 0048; Fig. 8, element 805; paragraph 0060).

Federwisch and Edwards are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Edwards' on-line check to Federwisch's snapshots because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of

repairing predetermined problems with file system coherency and consistency to ensure that the file system is stable and usable.

28. Claims 2, 4, 5, 11, 12, 24, 26, 27, 32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Federwisch in view of Edwards as applied to claims 1, 3, 9, 10, 23, 25, 31, and 33 above, and further in view of Haskin et al. (U.S. Patent Application Publication 2003/0158863) (hereinafter "Haskin").

As per claim 2, the combination of Federwisch/Edwards discloses all the limitations of claim except dirtying the data block pointed to by the backing store indirect block to enable write allocation of the dirty data block without altering a data content of the data block.

Haskin discloses dirtying the data block pointed to by the backing store indirect block to enable write allocation of the dirty data block without altering a data content of the data block (Haskin, paragraph 0079). *It should be noted that replacing the address of the allocated block is in effect "dirtying" the block without altering the content.*

The combination of Federwisch/Edwards and Haskin are analogous art because they are from the same field of endeavor, that being data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Haskin's ditto address feature to Federwisch/Edwards' data storage system because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of efficiently utilizing system kernel memory within data processing

equipment to support time sensitive processing tasks such as external data communications processing.

29. **As per claim 4**, the combination of Federwisch/Edwards/Haskin discloses freeing the dirty data block (Haskin, paragraph 0177); *It should be noted that "deleting" is analogous to "freeing."*

writing the newly allocated data block to disk (Haskin, paragraph 0177). *It should be noted that "flushing disk access buffers to disk" is analogous to "writing to disk."*

30. **As per claim 5**, the combination of Federwisch/Edwards/Haskin discloses releasing an association of the writable vdisk to the backing store to thereby separate the writable disk data blocks from the backing store data blocks (Haskin, paragraph 0112). *It should be noted that by "deleting" the snapshot it follows that all associations with the original file system are "released."*

31. **As per claim 11**, the combination of Federwisch/Edwards/Haskin discloses the write allocator is further adapted to:

free the dirty data block and write the newly allocated data block to disk (Haskin, paragraph 0177). *See the citation notes for claim 4 above.*

32. **As per claim 12**, the combination of Federwisch/Edwards/Haskin discloses the backdoor handler loads blocks of writable vdisk and the blocks of the backing store during periods of reduced processing activity (Haskin, paragraph 0053). *It should be noted that the blocks are loaded during periods other than when the blocks are being updated, thus when compared to periods of block updating, the loading periods have reduced processing activity.*

33. **As per claim 24**, the combination of Federwisch/Edwards/Haskin discloses dirtying the data block pointed to by the backing store indirect block to enable write allocation of the dirty data block without altering a data content of the data block (Haskin, paragraph 0079). *See the citation note for claim 2 above.*

34. **As per claim 26**, the combination of Federwisch/Edwards/Haskin discloses freeing the dirty data block (Haskin, paragraph 0177); *See the citation note for claim 4 above.*

writing the newly allocated data block to disk (Haskin, paragraph 0177). *See the citation note for claim 4 above.*

35. **As per claim 27**, the combination of Federwisch/Edwards/Haskin discloses releasing an association of the writable vdisk to the backing store to thereby separate the writable disk data blocks from the backing store data blocks (Haskin, paragraph 0112). *See the citation note for claim 5 above.*

36. **As per claim 32**, the combination of Federwisch/Edwards/Haskin discloses the data block pointed to by the backing store are dirtied to enable write allocation of the dirty data block without altering a data content of the data block (Haskin, paragraph 0079). *See the citation note for claim 2 above.*

37. **As per claim 34**, the combination of Federwisch/Edwards/Haskin discloses

the dirty block is freed; and the newly allocated data block is written to disk (Haskin, paragraph 0177). *See the citation notes for claim 4 above.*

38. **As per claim 35**, the combination of Federwisch/Edwards/Haskin discloses an association of the writable vdisk to the backing store is released to thereby separate the

writable vdisk data blocks from the backing store data blocks (Haskin, paragraph 0112).

See the citation note for claim 5 above.

Response to Arguments

39. Applicant's arguments filed September 29, 2008 with respect to **claims 1-15, 19, 20, and 23-42** have been considered but are moot in view of the new grounds of rejection above.

Conclusion

STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by MPEP 707.70(i):

CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, **claims 1-15, 19, 20, and 23-42** have received a first action on the merits and are subject of a first action non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arpan P. Savla whose telephone number is (571) 272-1077. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arpan Savla/
Examiner, Art Unit 2185
December 21, 2008

/Sanjiv Shah/
Supervisory Patent Examiner, Art Unit 2185